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**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL OF HEALTH SCIENCES**  
**UNIVERSITY EXAMINATION FOR DEGREE OF MASTER OF SCIENCE IN**  
**EPIDEMIOLOGY AND BIostatISTICS**  
**1<sup>st</sup> YEAR 1<sup>st</sup> SEMESTER 2024/2025 ACADEMIC YEAR**  
**KISUMU CAMPUS**

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**COURSE CODE: HES 5112**

**COURSE TITLE: Bioethics**

**DATE:14/1/25**

**EXAM SESSION: 9.00-12.00 NOON**

**TIME: 3 HOURS**

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**Instructions:**

1. Answer question 1 (compulsory) and any other three (3).
2. Each question carries 15 marks

**Answer any four questions. Each question carries 15 marks.**

**Question 1:** Discuss the moral grounds for and practical application of the following concepts in the context of preparing a research protocol for submission for scientific and ethics review:

- a. Risk-benefit assessment;
- b. Informed consent;
- c. Participant selection;

**Question 2:** During World War II, Nazi researchers, many of whom were highly esteemed physicians, conducted inhumane experiments on men, women, and children in concentration camp prisoners. Human subjects were deliberately subjected to painful traumatic surgical procedures and infliction of wounds without anesthesia, exposure to biological and chemical agents and exposure to sub-freezing temperatures. No attempt was made to relieve the tremendous pain and suffering that resulted, and high mortality rates were tolerated. These came to light during the 1946 Nazi Doctors Trial in Nuremberg.

- a. Identify and describe any **Three (3)** bioethical constructs you could apply to interrogate the moral events around the conduct of these scientific experiments. *6 marks*
- b. Highlight any **TWO (2)** ethical and **TWO (2)** administrative procedures that may be applied to prevent breach of ethical principles in scientific conduct. *6 marks*
- c. Explain any **THREE (3)** challenges that researchers may encounter when planning to conduct research in Kenya. *3 marks*

**Question 3:** Research conduct:

- a. Define research integrity. *1 marks*
- b. Explain the forms of research misconduct and how they might be prevented. *6 marks*
- c. Identify and describe any Four (4) criteria that Institutional Research Ethics Committees (IRECs) may apply to judge if a research protocol is ethically acceptable. *8marks*

**Question 4:** Public health is the societal approach to protecting and promoting health of the community through collective actions aimed. Potential ethical lapses in public health practice and

research are common, yet medical ethical principles are not adequate to provide response guidelines.

- a. Outline reasons why ethical analysis of public health programs is important. *3marks*
- b. Highlight five (5) ethical issues to help health professionals consider the ethics. implications of proposed public health interventions or policies. *7.5marks*
- c. Highlight any three (3) ethical challenges public health professionals / researchers may encounter in implementing immunization program activities. *4.5 marks*

**Question 4:** Ethical Issues in clinical trials:

- a. Define ethical dilemma and describe a decision-making criteria to help researchers in resolving the dilemmas. *5marks*
- b. Highlight any three (3) risks associated with phase 1 clinical trials. *4marks*
- c. Discuss how regulation and governance can promote high-quality research as well as maintain public and professional trust in clinical trials and findings *6marks*

**Question 5:** Define each of the following ethical issues and discuss reasons why their implementation in the research context in low- and middle- income countries remain problematic.

- a. Benefit sharing [5 marks]
- b. Research integrity 5 marks]
- c. Informed consent [5 marks]